

Bridges and Structures Design Manual – Metric

Division 1

SECTION 1

INTRODUCTION

1.1.1 GENERAL

This Manual, supplemented by other NJDOT Manuals, operating procedures and policies, is the vehicle by which policy for design and inspection and evaluation of bridges and structures is implemented. Presented herein is a compilation of NJDOT Structural Design guidance, specification interpretations, standard practices, details, guidelines, and bridge inspection and evaluation practices which constitute "policy".

While this Manual attempts to unify and clarify bridge design and inspection policy for work done by or for the New Jersey Department of Transportation, it does not preclude justifiable exceptions, subject to the approval of the Manager, Bureau of Structural Engineering, provided the exceptions are based on sound engineering principles. Good design practice will always require a combination of basic engineering principles, experience and judgment in order to furnish the best possible structure to suit an individual site within reasonable economic limitations.

The design policies in this Manual have been established primarily for application to normal short and medium span highway structures using conventional construction methods. These policies are subject to re-examination and may not, in some cases, be applicable to long span or high clearance structures such as major river crossings or multi-level interchange complexes. Should the need arise, designers, on a case by case basis, should contact the Manager, Bureau of Structural Engineering.

This Manual is a living document in that Baseline Document Changes will be issued, as warranted, because of changes in design criteria and policies.

1.1.2 REFERENCE PUBLICATIONS

The following publications, as modified in this Manual, govern the design of bridges and structures:

AASHTO Standard Specifications for Highway Bridges

AASHTO Standard Specifications for Movable Highway Bridges

AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals

AASHTO Manual on Foundation Investigations

ANSI/AWS Structural Welding Code D1.1

ANSI/AASHTO/AWS Bridge Welding Code D1.5

AASHTO Guide Specifications for Horizontally Curved Highway Bridges

AASHTO Guide Specifications for Fracture Critical Non-Redundant Steel Bridge Members

AREA Manual for Railway Engineering

The above publications are approved references to be used in conjunction with this Manual. Primarily they set forth minimum nationwide requirements which are consistent with current practice, but require modifications to suit local conditions. In the event of conflict in the requirements, the instructions in this Manual shall govern.

1.1.3 OTHER REFERENCES

The following is a list of other publications to which reference is made in this Manual:

<u>Subsections</u>	<u>Publication</u>
1.10A.3 1.27.1 1.37.1	NJDOT 1996 Standard Specifications for Road and Bridge Construction
1.34.4	NJDOT Rules Establishing Utility Accommodations Policy
1.34.5	Specifications for Pipeline Occupancy of Consolidated Rail Corporation Property
1.41.1	FHWA (USDOT) Bridge Inspector's Training Manual No. 90
1.41.2	AASHTO Manual for Condition Evaluation of Bridges
1.41.3C(2)b	FHWA, December 1995, Recording and Coding Guide for the Inventory and Appraisal of the Nation's Bridges.
1.41.3C(2)b	NJDOT, April 1990, Recording and Coding Guide for the Structure Inventory and Appraisal of New Jersey Bridges.
1.41.4	Pontis Elemental Inspection of Bridges Guidance Manual